

### Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50V~1000 V

Forward Current – 5.0 A

#### FEATURES

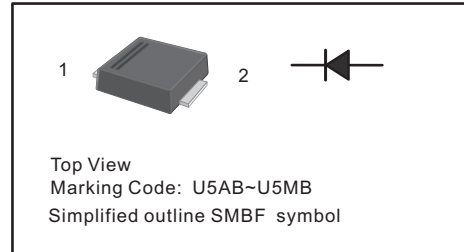
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

#### MECHANICAL DATA

- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

#### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



#### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

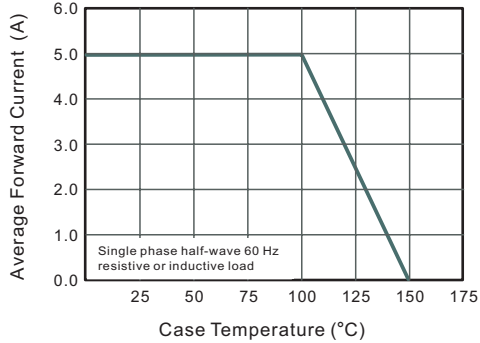
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	US5ABF	US5BBF	US5DBF	US5GBF	US5JBF	US5KBF	US5MBF	Units	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current at $T_c = 100\text{ }^\circ\text{C}$	$I_{F(AV)}$	5							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	125							A	
Maximum Instantaneous Forward Voltage at 5 A	$V_F$	1.0		1.3		1.68			V	
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$	10 150							$\mu\text{A}$	
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	50				75				ns
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JC}$	40 12							$^\circ\text{C/W}$	
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$	

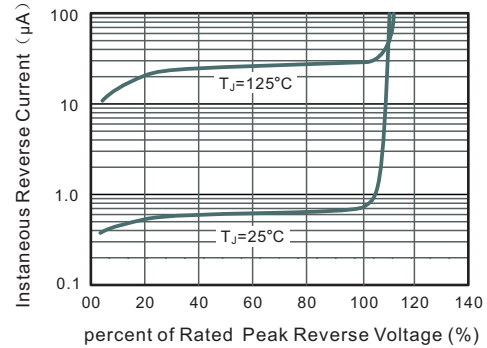
(1) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

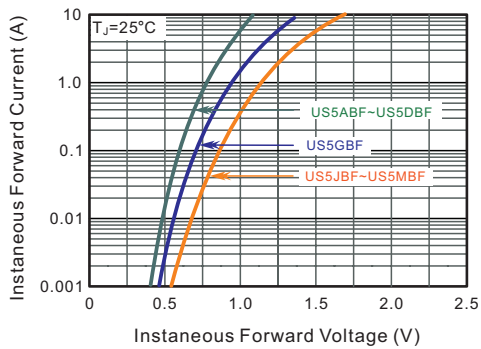
**Fig.1 Maximum Average Forward Current Rating**



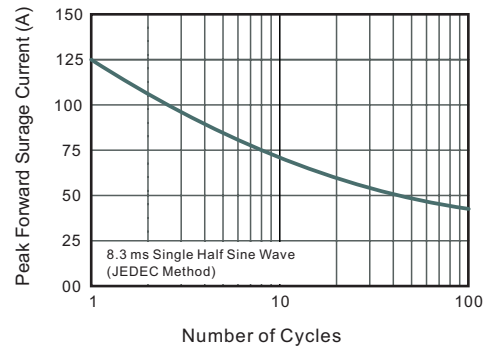
**Fig.2 Typical Reverse Characteristics**



**Fig.3 Typical Forward Characteristics**



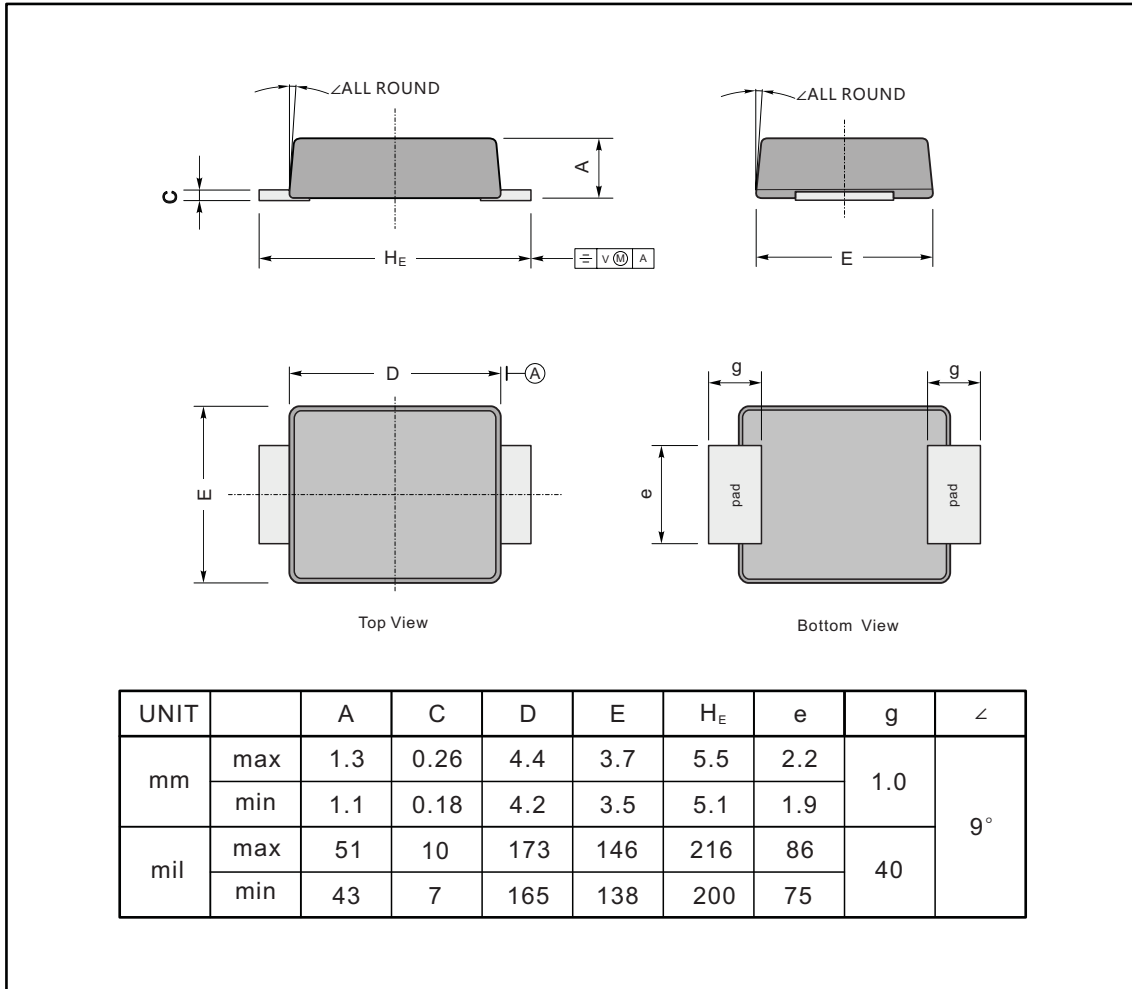
**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



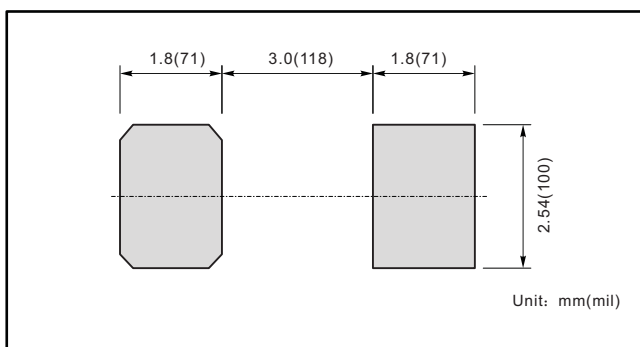
### PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMBF



### The recommended mounting pad size



### Marking

Type number	Marking code
US5ABF	U5AB
US5BBF	U5BB
US5DBF	U5DB
US5GBF	U5GB
US5JBF	U5JB
US5KBF	U5KB
US5MBF	U5MB